ENGINEERING SUPERVISOR

GRADE: 25 **FLSA: EXEMPT**

CHARACTERISTICS OF CLASS:

The Engineering Supervisor performs difficult professional work and administrative work in supervision of professional engineers and supporting technicians in one or more aspects of engineering, such as planning, design/design review, construction, repair-renovation, modification or maintenance of municipal structures and infrastructure; leads a team in capital improvements, development review or traffic/transportation. Work requires mastery of professional engineering knowledge and skills in application to a wide variety of public works projects and assignments. The Engineering Supervisor typically leads a team of project managers and project engineers in one or more aspects of municipal engineering. The Engineering Supervisor's work is both proactive and reactive with business contacts, including the public, on matters requiring cooperation, explanation and persuasion. Physical demands are predominantly light. The work involves considerable mental effort and stress in handling multiple, varied projects and meeting deadlines. Work is subject to functional policies and goals under general managerial direction, with serious consequences. The Engineering Supervisor is typically assigned to a Division in the Department of Public Works, with work typically flowing to him/her based on programmatic and functional responsibilities and reviewed for achievement of objectives, conformance to policies, timeliness, customer service and other factors by a Division Chief.

EXPECTATIONS OF ALL CITY EMPLOYEES:

- Learn and demonstrate an understanding of City, department, division and team goals.
- Serve and meet the needs of customers during routine or emergency situations.
- Ability and willingness to work as part of a team, to demonstrate team skills and to perform a fair share of team responsibilities.
- Ability to assess his/her work performance or the work performance of the team.
- Plan and organize his/her work, time and resources, and if applicable that of subordinates.
- Contribute to the development of others and/or the working unit or overall organization.
- Produce desired work outcomes including quality, quantity and timeliness.
- Communicate effectively with peers, supervisors, subordinates and people to whom service is provided.
- Understand and value differences in employees and value input from others.
- Consistently report to work and work assignments prepared and on schedule.
- Consistently display a positive behavior with regard to work, willingly accept constructive criticism and be respectful of others.

EXAMPLES OF DUTIES:

- Supervises professional engineers serving in such capacities as staff specialist, project manager and project engineer and support staff.
- Oversees the development, implementation and administration of standards, processes and other technical and non-technical materials for the programmatic/functional area of assignment.
- Oversees the review of laws, regulations, requirements and standards of the Federal government, the State, the City and non-governmental bodies (such as LEED standards) to identify and assess changes, gaps, conflicts and other problems, to advise on and recommend or develop changes in processes or standards, and for other purposes.
- Oversees the research and assessment of technical and industry developments (in construction processes, construction materials, materials testing, etc.) to identify 'best practices' and recommend revisions in processes or standards, and for other purposes.
- Oversees identification and resolution of cross-functional work processes and problems; advises and coordinates with Division Chiefs and others in recommending procedural changes and work-arounds.
- Performs or oversees engineering and economic analyses of proposed engineering, remediation or administrative solutions.
- Advises City attorneys on litigation or serves as an expert witness for hearings and court proceedings in the programmatic/functional area of assignment.
- Advises on and collaborates in the development of short- and long-term plans for the team's programmatic/functional area, cost-sharing agreements, grants, and inter-governmental and public-private partnerships considering such technical and non-technical factors as nature of the issues, timelines, available resources, services required and associated costs to ensure efficient, effective use of City resources and satisfaction of the parties involved.
- Identifies, coordinates and integrates the work of various engineering and non-engineering disciplines necessary to deliver expert advisory services and accomplish cost-effective, high-quality planning, design, construction or remediation activities.
- Advises on conflicting requirements involving public expectations, legislation/ordinances, engineering requirements and other factors.
- May troubleshoot unyielding technical or non-technical issues.
- May serve as a project manager.
- Manages individual engineering projects, some of which cross functional boundaries or involve multiple disciplines.
- Develops and manages plans for assigned projects (including technical and administrative steps, resources, schedules and costs, as applicable) covering the planning, design and/or construction phases.
- In the planning stage, initiates studies and establishes or approves functional criteria, performance requirements and related specifications.
- In the procurement phase, provides technical vice to the contacting officer and helps evaluate design and construction bids, performs technical reviews, helps to

select engineering and architecture (A&E) firms for contract award and leads, or helps lead, technical aspects of contract negotiations.

- In the design phase, manages the A&E contract to ensure adequacy of the A&E firm's work, timeliness, accuracy of construction cost estimates, and appropriate coordination with others, including governmental bodies.
- In the construction phase, interprets designs and advises on intent issues as they arise, refines or revises designs or adds designs, as necessary, and may monitor construction through construction contractors or inspectors.
- Takes care in planning and scheduling of work to minimize inconvenience to City residents and the general public.
- Coordinates work between different designers, as necessary, and prepares technical aspects of contract change orders, and certifies invoices that signify completion of work phases.
- May serve as a project engineer.
- Prepares or recommends engineering studies and designs and improvements to design efforts that include analyses of functional and performance characteristics (including materials, processes, maintainability and sustainability), calculations, schematics, specifications and cost estimates.
- Reviews system, facility and infrastructure studies and designs (from initial schematics to final construction drawings, specifications, etc.) prepared by owners, developers and their A&E firms to ensure conformance with City/State/Federal standards (as applicable) and related design plans, to determine the adequacy of design for its intended purpose, etc.
- Seals plans as a Professional Engineer.
- Leads in assigned areas of the Division's operating and capital budgets by overseeing or performing such preparation, execution and close-out activities as estimating or calculating and reporting engineering costs involved (personnel, materials, etc.).
- Regularly meets and interacts with co-workers, regulators in other agencies, such as Maryland State Highway Administration (MSHA), Maryland Department of the Environment (MDE), US Department of Transportation and US Environment Protection Agency, utility agencies or companies, such as Potomac Electric Power Company (PEPCO), the Washington Suburban Sanitary Commission (WSSC) and Washington Gas, private developers, property owners, the general public on planning, design, design review, construction, easement and related issues.
- Attends public hearings and community meetings to describe new engineering projects and advise on engineering related matters, takes the lead in answering questions from a project management perspective, and responds to inquiries and complaints from the public, property owners and private developers, including some technically unusual or highly sensitive matters.
- Makes occasional site visits to inspect field conditions and check on project management and project engineering work of subordinates. Monitors work on site and quality control to identify operational problems, ensure adequate progress, that materials, equipment and work are of acceptable quality and adhere to plans and specifications, and that reporting by subordinates is complete and accurate.

- Uses a computer or programmed calculator for spreadsheet and word processing applications, to do simulations, make engineering calculations, etc.
- Uses a vehicle to get to/around various work sites.
- Performs other duties as assigned or required.

QUALIFICATIONS:

Required Training and Experience:

- Any combination of training and experience substantially equivalent to a Master's degree in engineering with major course in engineering in a discipline or specialty pertinent to the position of assignment.
- Five (5) years of progressively responsible experience in the engineering, including two (2) years in the discipline/specialty of assignment (civil engineering, traffic/transportation engineering, etc.).
- Possession of (or ability to obtain) certification from the Board of Registration for Professional Engineers for the State of Maryland within a reasonable amount of time as determined by the City.
- Possession of an appropriate driver's license valid in the State of Maryland.

Preferred Training, Experience and Licensure/Certification:

- Professional certification in the discipline/specialty area of assignment; examples:
- Certification as --- TBD --- in the field of civil engineering.
- Certification as --- TBD --- in the field of traffic/transportation engineering.
- Progressively responsible experience in the engineering of public works, particularly in the discipline/specialty of assignment (civil engineering, traffic/transportation engineering, etc); examples:
- Engineering experience evaluating, advising on, overseeing, directing or regulating work to ensure its quality and compliance with needs, designs, plans, specifications, industry standards or governmental regulations; conducting studies and developing plans, specifications, and construction requirements such as schedules, costs, labor, and materials; determining adequacy and validity of contractor data and compliance with safety requirements; tracking progress, status and cost of projects and contract change orders using various reporting mechanisms; negotiating cost of minor (or major) changes with A&E designers or construction contractors; anticipating, evaluating, and resolving issues affecting the quality, scheduling, budgeting or progress of work performed in completing projects; and analyzing and recommending engineering and administrative standards and processes for project engineering or project management engineering in the public sector (Federal, state or local).
- Civil engineering experience originating, assessing, and providing advice on concrete and reinforcing designs, engineering drawings, hydraulic designs, static and dynamic loads, and soil and foundation mechanics.

- Traffic/transportation engineering experience originating, assessing, and providing advice on traffic patterns and traffic control systems, roadways (such as major arteries, principal roads, connectors , slips, residential streets, bikeways and other urban pavements), engineering drawings, and soil and foundation mechanics.

Preferred Knowledge, Skills and Abilities:

- Mastery of the concepts, principles and practices of engineering pertinent to the assignment (such as civil engineering and traffic/transportation engineering) to supervise, perform and advise on the full range of engineering projects and issues in one's discipline/specialty. This includes the knowledge required to make senior- or expert-level recommendations or decisions concerning technical standards and processes, with due consideration of practicality and cost, as well as sustainability, maintainability and similar factors.
- Considerable professional knowledge of other engineering disciplines (such as mechanical and electrical engineering), and knowledge of related fields (such as the construction industry and materials testing), to identify and advise on a range of issues, processes, materials and equipment during planning, design/design review or construction.
- Knowledge of work planning, organization and review and skill in managing project engineering work, engineering project management and supporting sub-professional functions.
- Knowledge of supervision and skill in supervising a small group of professional and sub-professional staff at the first-level of supervision.
- Knowledge of project management objectives, concepts, and methodology to systematically study engineering project management at the City and recommend changes in approaches and procedures for managing or reviewing projects along the planning - design/design review - construction continuum.
- Knowledge of key regulatory requirements (such as storm water management, inspection standards, the Clean Water Act and other State and Federal laws and regulations); of City contracting and engineering procedures; of building codes and standards applicable to projects in the City; and of other similar requirements, standards and procedures to advise on the full range of planning-design/design review-construction issues encountered in one's assignments, and to serve as a Engineering Supervisor over engineering project management and project engineering.
- Skill in problem solving to select, organize and logically process relevant information (verbal, numerical or abstract) to solve a problem. This includes ability to recognize subtle aspects of problems and identify sensitive issues. Examples include skill in identifying and specifying design-build, maintenance, repair-renovation or remediation work to be done, interpreting blueprints, quality-inspecting work performed, setting up and maintaining work files, preparing reports and performing special projects requiring identification and analysis of interactive variables.

- Skill in oral communication to understand verbal information (including facts, assertions and arguments) and to express such information verbally so that others will understand and, in some cases, be convinced or persuaded. This includes skill in presenting technical and non-technical information to people with varying backgrounds and perspectives, making public presentations, testifying at hearings and in court and encouraging effective oral communication by others, such as A&E firm designers, developers, contractors, partners and the general public.
- Skill in written communication to understand written information, draw inferences, form hypotheses and develop logical arguments, and to express information in writing so that others will understand and, in some cases, be convinced or persuaded. This includes skill in writing engineering standards and processes, completing or reviewing project requirements, contracts, specifications, invoices, correspondence, etc.
- Interpersonal skills to interact effectively with others in a customer-service oriented, businesslike manner. This includes ability to coach others, principally engineers and engineering technicians. Business contacts include peers, executives, officials and others in City government, contractors, partner organizations and the general public.
- Skill in using modern software for planning, scheduling, email communication, word processing, spreadsheets and other applications.